CLAIM AMENDMENTS

1. (Previously Presented) A positioner for moving an E-block and a data transducer of a disk drive relative to a storage disk, the E-block having a longitudinal axis, the positioner comprising:

a magnet assembly producing a magnetic field; and

a coil array that couples to the E-block and is positioned near the magnet assembly, the coil array being a generally D-shaped loop including a first segment that is positioned substantially perpendicular to the longitudinal axis of the E-block, the first segment being adapted to interact with the magnetic field to move the E-block relative to the storage disk.

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2. (Original) The positioner of claim 1 wherein the first segment is substantially linear.

3. (Original) The positioner of claim 2 wherein the first segment includes (i) a first portion positioned on one side of the longitudinal axis of the E-block, and (ii) a second portion positioned on an opposite side of the longitudinal axis E-block, wherein the first and second portions are adapted to interact with the magnetic field to move the E-block relative to the storage disk.

4. (Original) The positioner of claim 3 wherein the first and second portions are positioned substantially symmetrical relative to the longitudinal axis.

5. (Original) The positioner of claim 3 further comprising a control system, that directs current to the coil array to electrically excite the first portion and the second portion, the electrically excited first portion interacting with the magnetic field to generate a first force, and the electrically excited second portion interacting with the magnetic field to generate a second force.

6. (Original) The positioner of claim 5 wherein the first and second forces are substantially parallel to the longitudinal axis, and wherein the first force is substantially equal in magnitude and substantially opposite in direction to the second force.

7. (Original) The positioner of claim 3 wherein the magnet assembly includes an upper magnet array and a lower magnet array, and wherein the first and second portions are positioned substantially between the upper and lower magnet arrays.

8. (Original) The positioner of claim 3 wherein the first segment further includes a center portion, the center portion being positioned between the first and second portions, the center portion electrically connecting the first portion to the second portion, the center portion being positioned such that the center portion does not substantially interact with the magnetic field when the center portion is electrically excited.

9. (Original) The positioner of claim 3 wherein the coil array includes a second segment that is connected to the first segment, the second segment being positioned relative to the magnet assembly such that the second segment does not interact with the magnetic field when the second segment is electrically excited.

10. (Original) The positioner of claim 1 wherein the only portion of the coil array that interacts with the magnetic field of the magnet assembly when the coil array is electrically excited is positioned substantially perpendicular to the longitudinal axis of the E-block.

11. (Original) A head stack assembly including an E-block and the positioner of claim 1.

12. (Original) A disk drive including the positioner of claim 1.

13. (Currently Amended) A head stack assembly for moving a data transducer of a disk drive relative to a target track of a storage disk, the head stack assembly comprising:

an E-block having a longitudinal axis;

a transducer assembly secured to the E-block, the transducer assembly including a data transducer;

a positioner including (i) a magnet assembly producing a magnetic field, (ii) a coil array secured to the E-block and positioned near the magnet assembly, the coil array being a ~~generally~~ D-shaped loop consisting of a first segment and a second segment, the first segment is substantially linear, the ~~including a~~ first segment positioned substantially perpendicular to the longitudinal axis, the first segment including (i) a first portion, and (ii) a second portion, and the second segment forms an arc; and

a control system that directs current to the coil array to move the data transducer relative to the target track.

14. (Original) The head stack assembly of claim 13 wherein the control system (i) directs current to the first portion to electrically excite the first portion, and (ii) directs current to the second portion to electrically excite the second portion;

wherein (i) the electrically excited first portion interacts with the magnetic field to generate a first force and (ii) the electrically excited second portion interacts with the magnetic field to generate a second force; and

wherein (i) the first force is substantially equal in magnitude to the second force and (ii) the first force is substantially opposite in direction to the second force.

15. (Original) The head stack assembly of claim 14 wherein the first and second forces are substantially parallel to the longitudinal axis.

16. (Original) The head stack assembly of claim 15 wherein the first portion and the second portion are positioned symmetrical to the longitudinal axis.

17. (Original) The head stack assembly of claim 16 wherein the first segment further includes a center portion, the center portion being positioned between and connected to the first portion and the second portion.

18. (Original) The head stack assembly of claim 17 wherein the center portion does not substantially interact with the magnetic field.

19. (Original) A disk drive including a storage disk, a drive housing and the head stack assembly of claim 16 movably secured to the drive housing.

20. (Currently Amended) A method for retrieving data from a target track on a rotating storage disk of a disk drive, the method comprising the steps of:

providing an E-block with a longitudinal axis;

securing a transducer assembly to the E-block, the transducer assembly including a data transducer;

providing a magnet assembly producing a magnetic field;

coupling a coil array to the E-block with the coil array being positioned near the magnet assembly, the coil array being a ~~generally~~ D-shaped loop consisting of ~~including~~ (i) a first portion that is substantially linear~~;~~ and (ii) a second portion that forms an arc, the first and second portions being perpendicular to the longitudinal axis, the first and second portions being positioned symmetrically about the longitudinal axis; and

directing current to the coil array to move the data transducer relative to the target track.

21. (Previously Presented) The method of claim 20 wherein directing current to the coil array includes directing current to the first portion and the second portion to generate a first force and a second force, respectively, wherein the first force is substantially equal in magnitude and opposite in direction to the second force.

22. (Original) The method of claim 21 wherein the first force and the second force are substantially parallel to the longitudinal axis.

23. (Currently Amended) A positioner for moving a data transducer relative to a storage disk in a disk drive, the positioner comprising:

a magnetic assembly including an upper magnetic array and a lower magnetic array; and

a coil array between the magnetic arrays, wherein the coil array is a ~~generally~~ D-shaped loop that consists of a first segment and a second segment, the first segment is substantially linear and the second segment forms an arc.

24. (Currently Amended) The positioner of claim 23 wherein ~~the coil array includes a first segment and a second segment,~~ the first segment is ~~substantially~~ linear ~~and the second segment forms an arc~~.

25. (Previously Presented) The positioner of claim 24 wherein the first segment is substantially perpendicular to a longitudinal axis of a head stack assembly that includes the data transducer.

26. (Previously Presented) The positioner of claim 25 wherein the second segment forms an arc that is centered at a pivot center of the head stack assembly.

27. (Previously Presented) The positioner of claim 25 wherein the first and second segments are positioned symmetrically about the longitudinal axis.

28. (Previously Presented) The positioner of claim 25 wherein the first segment includes a first portion, a second portion and a center portion therebetween, the first and second portions are positioned between the magnetic arrays, and the center portion is not positioned between the magnetic arrays.

29. (Previously Presented) The positioner of claim 23 wherein the magnetic arrays each include an inner side, an outer side, and a pair of side wings therebetween, the inner side faces towards the data transducer and forms an arc, and the outer side faces away from the data transducer.

30. (Previously Presented) The positioner of claim 29 wherein the inner side forms an arc that is centered at a pivot center for the data transducer.

31. (Previously Presented) The positioner of claim 29 wherein the inner and outer sides are curved with reverse concavity relative to one another.

32. (Currently Amended) The positioner of claim 29 wherein the coil array includes the first and second segments and a pair of corners therebetween, and the corners are disposed on opposites sides of a longitudinal axis of a head stack assembly that includes the data transducer.

33. (Previously Presented) The positioner of claim 32 wherein the corners are substantially aligned with the wings in a direction perpendicular to the longitudinal axis.

34. (Previously Presented) The positioner of claim 32 wherein the corners are not substantially aligned with the wings in a direction parallel to the longitudinal axis.

35. (Previously Presented) The positioner of claim 23 wherein the magnetic arrays extend a first distance parallel to a longitudinal axis of a head stack assembly that includes the data transducer, the coil array extends a second distance parallel to the longitudinal axis, and the first distance is greater than the second distance.

36. (Previously Presented) The positioner of claim 23 wherein the magnetic arrays extend a first distance perpendicular to a longitudinal axis of a head stack assembly that includes the data transducer, the coil array extends a second distance perpendicular to the longitudinal axis, and the first and second distances are essentially identical.

37. (Currently Amended) A positioner for moving a data transducer relative to a storage disk in a disk drive, the positioner comprising:

a magnetic assembly including an upper magnetic array and a lower magnetic array;

a coil array between the magnetic arrays, wherein the coil array is a ~~generally~~ D-shaped loop of wire wrapped into a plurality of turns that consists of ~~includes~~ a first segment and a second segment, the first segment is substantially linear and the second segment forms an arc; and

a control system that electrically excites the coil array to interact with a magnetic field of the magnetic assembly.

38. (Previously Presented) The positioner of claim 37 wherein the first segment includes a first portion, a second portion and a center portion therebetween, the first and second portions are positioned between the magnetic arrays, and the center portion is not positioned between the magnetic arrays.

39. (Previously Presented) The positioner of claim 37 wherein the magnetic arrays extend a first distance parallel to a longitudinal axis of a head stack assembly that includes the data transducer, the coil array extends a second distance parallel to the longitudinal axis, and the first distance is greater than the second distance.

40. (Previously Presented) The positioner of claim 37 wherein the magnetic arrays extend a first distance perpendicular to a longitudinal axis of a head stack assembly that includes the data transducer, the coil array extends a second distance perpendicular to the longitudinal axis, and the first and second distances are essentially identical.

41. (New) A head stack assembly for moving a data transducer of a disk drive relative to a target track of a storage disk, the head stack assembly comprising:

an E-block having a longitudinal axis;

a transducer assembly secured to the E-block, the transducer assembly including a data transducer;

a positioner including (i) a magnet assembly producing a magnetic field, (ii) a coil array secured to the E-block and positioned near the magnet assembly, the coil array being a generally D-shaped loop including a first segment positioned substantially perpendicular to the longitudinal axis, the first segment including (i) a first portion, and (ii) a second portion; and

a control system that directs current to the coil array to move the data transducer relative to the target track;

wherein the control system (i) directs current to the first portion to electrically excite the first portion, and (ii) directs current to the second portion to electrically excite the second portion;

wherein (i) the electrically excited first portion interacts with the magnetic field to generate a first force and (ii) the electrically excited second portion interacts with the magnetic field to generate a second force; and

wherein (i) the first force is substantially equal in magnitude to the second force and (ii) the first force is substantially opposite in direction to the second force.

42. (New) The head stack assembly of claim 41 wherein the first and second forces are substantially parallel to the longitudinal axis.

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43. (New) The head stack assembly of claim 42 wherein the first portion and the second portion are positioned symmetrical to the longitudinal axis.

44. (New) The head stack assembly of claim 43 wherein the first segment further includes a center portion, the center portion being positioned between and connected to the first portion and the second portion.

45. (New) The head stack assembly of claim 44 wherein the center portion does not substantially interact with the magnetic field.

46. (New) A disk drive including a storage disk, a drive housing and the head stack assembly of claim 43 movably secured to the drive housing.

47. (New) A method for retrieving data from a target track on a rotating storage disk of a disk drive, the method comprising the steps of:

providing an E-block with a longitudinal axis;

securing a transducer assembly to the E-block, the transducer assembly including a data transducer;

providing a magnet assembly producing a magnetic field;

coupling a coil array to the E-block with the coil array being positioned near the magnet assembly, the coil array being a generally D-shaped loop including (i) a first portion; and (ii) a second portion, the first and second portions being perpendicular to the longitudinal axis, the first and second portions being positioned symmetrically about the longitudinal axis; and

directing current to the coil array to move the data transducer relative to the target track, wherein directing current to the coil array includes directing current to the first portion and the second portion to generate a first force and a second force, respectively, wherein the first force is substantially equal in magnitude and opposite in direction to the second force.

48. (New) The method of claim 47 wherein the first force and the second force are substantially parallel to the longitudinal axis.

49. (New) A positioner for moving a data transducer relative to a storage disk in a disk drive, the positioner comprising:

a magnetic assembly including an upper magnetic array and a lower magnetic array, wherein the magnetic arrays each include an inner side, an outer side, and a pair of side wings therebetween, the inner side faces towards the data transducer and forms an arc, the outer side faces away from the data transducer, and the inner and outer sides are curved with reverse concavity relative to one another; and

a coil array between the magnetic arrays, wherein the coil array is a generally D-shaped loop.

50. (New) A positioner for moving a data transducer relative to a storage disk in a disk drive, the positioner comprising:

a magnetic assembly including an upper magnetic array and a lower magnetic array, wherein the magnetic arrays each include an inner side, an outer side, and a pair of side wings therebetween, the inner side faces towards the data transducer and forms an arc, and the outer side faces away from the data transducer; and

a coil array between the magnetic arrays, wherein the coil array is a generally D-shaped loop, and the coil array includes first and second segments and a pair of corners therebetween,

and the corners are disposed on opposites sides of a longitudinal axis of a head stack assembly that includes the data transducer.

51. (New) The positioner of claim 50 wherein the corners are substantially aligned with the wings in a direction perpendicular to the longitudinal axis.

52. (New) The positioner of claim 50 wherein the corners are not substantially aligned with the wings in a direction parallel to the longitudinal axis.

53. (New) A positioner for moving a data transducer relative to a storage disk in a disk drive, the positioner comprising:

a magnetic assembly including an upper magnetic array and a lower magnetic array; and

a coil array between the magnetic arrays, wherein the coil array is a generally D-shaped loop, wherein the magnetic arrays extend a first distance perpendicular to a longitudinal axis of a head stack assembly that includes the data transducer, the coil array extends a second distance perpendicular to the longitudinal axis, and the first and second distances are essentially identical.

54. (New) A positioner for moving a data transducer relative to a storage disk in a disk drive, the positioner comprising:

a magnetic assembly including an upper magnetic array and a lower magnetic array;

a coil array between the magnetic arrays, wherein the coil array is a generally D-shaped loop of wire wrapped into a plurality of turns that includes a first segment and a second segment, the first segment is substantially linear and the second segment forms an arc; and

a control system that electrically excites the coil array to interact with a magnetic field of the magnetic assembly;

wherein the magnetic arrays extend a first distance perpendicular to a longitudinal axis of a head stack assembly that includes the data transducer, the coil array extends a second distance perpendicular to the longitudinal axis, and the first and second distances are essentially identical.